

REMARKS

By the present Amendment, claims 1, 4, 6, 11 and 16 are amended, and claims 2, 3 and 17 are cancelled. This leaves claims 1, 4-16 and 18 pending in the application, with claims 1, 11 and 16 being independent.

Drawings

Formal drawings were submitted prior to issuance of the June 4, 1999 Office Action. No comment on the formal drawings, and a Notice of Draftsperson's patent drawing review, PTO 948 has been provided. Approval of the formal drawings is requested.

Rejection under 35 U.S.C. § 112, Second Paragraph

Original claims 1-10 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for including a whereby clause reciting the function of the deformation. In re Mason, 114 USPQ 127 (C.C.P.A. 1957) is cited in support of the rejection. Applicants respectfully traverse this rejection.

Functional recitations are specifically permitted by MPEP Section 2173.05(g), which states,

“There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper.”

and

“A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which is used.”

Furthermore, In re Mason merely holds a functional “whereby” clause does not define any structure and accordingly cannot serve to distinguish over the prior art, and does not hold that such clauses are inherently indefinite. The C.C.P.A. specifically approved claims including such whereby clauses in In re Swinehart, 439 F.2d 210, 169 USPQ 226 (C.C.P.A. 1971). In Swinehart, the C.C.P.A. stated that

“we take the “characterization functional”, as used by the Patent Office and argued by the parties, to indicate nothing more than the fact that an attempt is being made to define something by what it does rather than by what it is. In our view, there is nothing intrinsically wrong with the use of such a technique in drafting patent claims. Indeed we have even recognized in the past the practical necessity for the use of functional language.” (Emphasis in original)

Thus, functional limitations may be used in claims, and such limitations are not *per se* indefinite. No support exists, either in judicial decisions or in the patent statutes, for the contention that functional language, in and of itself, renders a claim improper.

Since the claims comply with 35 U.S.C. § 112, reconsideration and withdrawal of the rejection is requested.

Rejections under 35 U.S.C. § 102

Claim 1, as amended, covers a terminal assembly comprising a terminal base and a screw. The terminal base has a bore with an internal thread. The screw has a shank with opposite first and second ends and with an external thread, and has a head on the first end of the shank. The second end of the shank is circular and substantially planar. A deformation is provided in a portion of the external thread adjacent the shank second end. The deformation is formed when the second end of the shank is staked along a chord of the second end.

By forming the terminal assembly in this manner, the stake deforms the threads to act as a stop to limit the degree of screw removal from the bore in the terminal base in a simple and effective manner with minimum disruption of the thread. The circular planar end facilitates forming the stake, particularly compared to a cylindrical surface. This allows the back out of the screw to be limited to a predetermined dimension with a relatively high tolerance. Additionally, the screw can be backed out to its maximum extent without it becoming disengaged from the terminal base since the stake in the second end prevents unthreading beyond the area of deformation.

Claim 11 also covers a terminal assembly comprising a terminal and a screw. The screw has a shank with a stake formed in and extending along a chord at a second end of the shank.

Claim 16 covers a method of forming a terminal assembly including the step of deforming a portion of the external thread by staking along a line extending across a second end and offset from a longitudinal axis of the shank.

Original claims 1-18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 3,340,497 to Balint. The Balint terminal is interpreted as having a screw with a shank 8 and a deformation 35 in a portion of the external thread.

However, the Balint deformation 35, as shown in Figure 2, extends only along the external longitudinal surface of the shank. The specification at col. 4, lines 31 states that "after the screw 8 has been threaded into the hole 5, the inner end thereof is staked or upset, as at 35 ...". Fig. 2 indicates that the staking occurs on that part of the screw 8 that has passed through the hole 5 and extends along the outside of the threaded shank along its length. The resulting deformation must therefore be on the threaded portion only, significantly limiting the amount of usable thread.

In contrast, the claimed stake extends longitudinally on the circular and planar second end of the shank along a chord of the second end. That is, the deformation is formed when the second end of the shank is staked, as opposed to the Balint deformation 35 which, as seen in Figure 2 and discussed above, is placed along the cylindrical longitudinal periphery. Forming the deformation in the curved, cylindrical surface is more difficult than in a planar surface. Thus, claims 1, 11 and 16 are patentably distinguishable over the cited patents.

Claims 4-10, being dependent upon claim 1, claims 12-15, being dependent upon claim 11, and claim 18, being dependent upon claim 16, are also allowable for the reasons above. Moreover, such claims are further distinguished by the additional features recited therein, particularly within the claimed combination.

Additionally, claims 6-8 and 12-14 refer to a backing plate receiving the shank between the screw head and the terminal base. The retainer tab 13 of Balint is cited to satisfy this feature of the claimed invention. However, the Balint retainer tab 13 is part of the terminal which is internally threaded to receive the screw. The tab 13 cannot also constitute the backing plate. The plate 1 having bore 2 cannot be the terminal base since it does not have an internal thread for engaging the screw. Thus, the Balint patent does not disclose a backing plate with one or more tabs received in the opening of the terminal base, as claimed.

Accordingly, in view of the forgoing, claims 1, 4-16 and 18 are allowable. Prompt and favorable action is solicited.

Respectfully submitted,

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